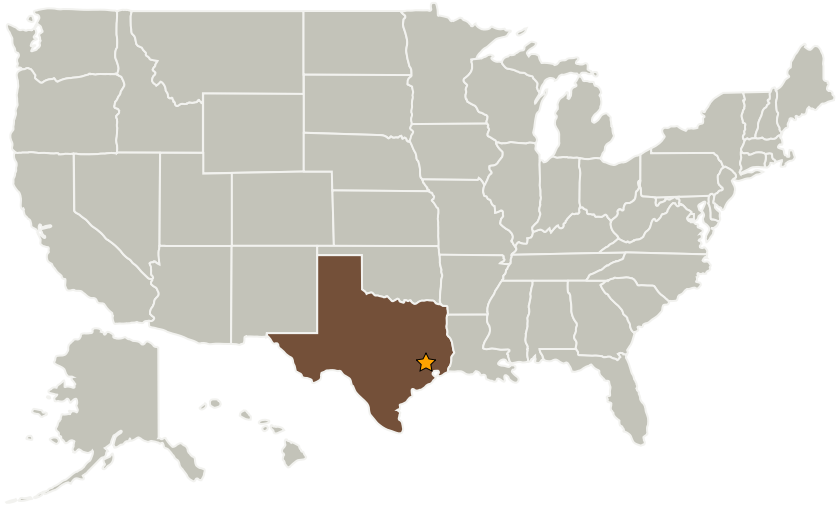
ISS Inventory Tracking System, Phase I

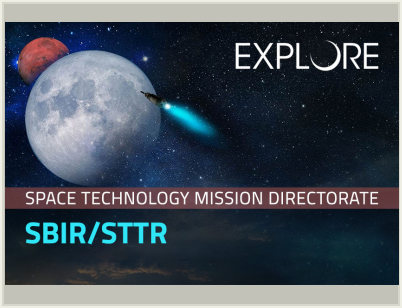
Completed Technology Project (2004 - 2004)

Project Introduction

The success of the International Space Station in meeting NASA?s goals for completing the maximum amount of scientific research aboard the orbiting outpost is directly related to the proportion of astronaut time spent on scientific endeavors versus the time spent maintaining all of the ISS facility resources. In order to reduce the amount of crew time involved with inventory and logistics activities, the research and development of a highly automated, robust, scalable inventory and object tracking system based on recent advances in commercially available Surface Acoustic Wave passive ID tags is proposed. Through the combination of monitoring the movement of equipment and expendables through hatches, monitoring the contents of storage racks on a periodic basis, and by providing searching capabilities for particular objects, the system would significantly reduce crew workload, improve crew efficiency, and provide ground personnel with expanded knowledge of the on-board configuration of vehicle resources. The use of passive SAW tags will ultimately provide for lower cost tags with extended reading range, lower emissions, and expanded temperature range since the tag is not rectifying transmitted energy in order to power active circuits. In addition to the network of readers, PC software will be developed for simple crew interfacing.

Primary U.S. Work Locations and Key Partners





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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
Invocon, Inc.	Supporting Organization	Industry Veteran-Owned Small Business (VOSB)	Conroe, Texas

Primary U.S. Work Locations
Texas

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Doug Heermann

Technology Areas

Primary:

- TX04 Robotic Systems
  - TX04.2 Mobility
    - TX04.2.3 Small-Body and Microgravity Mobility